ABSTRACT

The present invention relates to a method and a system for sending multicast information to a user. The present uses agents, network programs, that reside on multicast-enabled computers. The agents receive multicast data packets sent to members of a multicast group. The agents repackage the multicast information into a unicast data packet and forward the unicast data packet to a client registered with the agent. The agent may maintain a list of clients for whom it provides service along with information on the multicast group(s) from which the client wants to receive information. Clients may register with an agent by sending a join message. In one embodiment of the present invention, the join message is sent to a source server, another computer program, that handles the assignment of clients to agents. The source server may maintain and/or generate information concerning client/agent pairings that may be used in the assignment process. For example, a composite distance metric calculating some value such as latency or distance between a client and an agent (a client/agent pair) may be used. In another embodiment of the present invention, the client may register directly with an agent. In this embodiment, the agent to which the client sends the join message to may become the agent providing the multicasting-to-unicast bridging services to the client. In a third embodiment of the present invention, the client may send a join message to an agent, where this first agent may be termed a primary agent. The primary agent may determine the agent responsible for providing service to the client (which may be termed the service provider agent). The primary agent may maintain/or generate client/agent pair information such as the composite distance metric to assist with client/service provider agent pairing. Unlike the source server, in this embodiment one to all of the agents may serve as a primary agent and all the primary agents may also function as service provider agents. The source server, the client(s), and the agent(s) may be distributed over several computer systems connected over a communications network such as the Internet.